



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**05.03.2008 Bulletin 2008/10**

(51) Int Cl.:  
**H04N 7/46 (2006.01)**

(43) Date of publication A2:  
**09.01.2008 Bulletin 2008/02**

(21) Application number: **07019719.9**

(22) Date of filing: **10.01.2003**

(84) Designated Contracting States:  
**FI FR IT SE**

(71) Applicant: **LG Electronics, Inc.**  
**Seoul 150-721 (KR)**

(30) Priority: **09.04.2002 KR 20020019262**  
**21.11.2002 KR 20020072862**

(72) Inventor: **Jeon, Byeong Moon**  
**Seoul (KR)**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:  
**03000442.8 / 1 359 769**

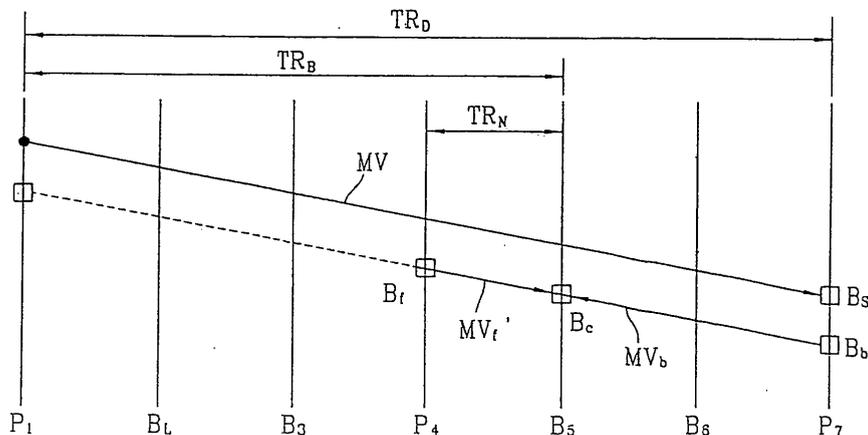
(74) Representative: **Menges, Christian Alexander et al**  
**Diehl & Partner GbR.**  
**Augustenstr. 46**  
**80333 Munich (DE)**

(54) **Method for block prediction of a bi-predictive picture in direct mode**

(57) A method of predicting a block of a bi-predictive picture to be coded or decoded in direct mode is disclosed, the method comprising: a first step for calculating forward ( $MV_f$ ) and backward ( $MV_b$ ) motion vectors for the block on the bi-predictive picture ( $B_5$ ); a second step for obtaining a forward motion-compensated block ( $B_f$ ) using the forward motion vector ( $MV_f$ ) and a forward reference picture ( $P_1$ ), and obtaining a backward motion-compensated block ( $B_b$ ) using the backward motion vector ( $MV_b$ ) and a backward reference picture ( $P_7$ ); and a third step for predicting the block ( $B_c$ ), wherein a first weight factor is applied to the forward motion-compensated block ( $B_f$ ), and a second weight factor is applied to the backward motion-compensated block ( $B_b$ ), wherein the first and second weight factors are based on respective temporal distances ( $TR_B$ ,  $TR_D$ ).

sated block ( $B_b$ ) using the backward motion vector ( $MV_b$ ) and a backward reference picture ( $P_7$ ); and a third step for predicting the block ( $B_c$ ), wherein a first weight factor is applied to the forward motion-compensated block ( $B_f$ ), and a second weight factor is applied to the backward motion-compensated block ( $B_b$ ), wherein the first and second weight factors are based on respective temporal distances ( $TR_B$ ,  $TR_D$ ).

FIG. 2





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	"WORKING DRAFT NUMBER 2, REVISION 2 (WD-2)" DOCUMENT JVT-B118R2, 29 January 2002 (2002-01-29), pages 1-10, XP001086630 * paragraphs [07.2], [7.4.2]; figure 21 *	1-4	INV. H04N7/46
A	EP 0 863 674 A (GEN INSTRUMENT CORP) 9 September 1998 (1998-09-09) * figures 4,5 * * page 2, lines 44-58 * * page 3, line 1 - line 17 * * page 6, line 56 - page 7, line 29 * * page 9, line 30 - page 10, line 23 * * page 10, line 43 - page 11, line 33 *	1-4	
A	WO 01/33864 A (KONINKL PHILIPS ELECTRONICS NV) 10 May 2001 (2001-05-10) * page 4, line 10 - line 23 *	1-4	
A	TSUHAN CHEN ET AL: "A new frame interpolation scheme for talking head sequences" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON IMAGE PROCESSING. (ICIP). WASHINGTON, OCT. 23 - 26, 1995, LOS ALAMITOS, IEEE COMP. SOC. PRESS, US, vol. 3, 23 October 1995 (1995-10-23), pages 591-594, XP010197038 ISBN: 0-7803-3122-2 * paragraph [0002] *	1-4	TECHNICAL FIELDS SEARCHED (IPC) H04N
5 The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 13 December 2007	Examiner Kuhn, Peter
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone                      Y : particularly relevant if combined with another document of the same category                      A : technological background                      O : non-written disclosure                      P : intermediate document</p> <p>T : theory or principle underlying the invention                      E : earlier patent document, but published on, or after the filing date                      D : document cited in the application                      L : document cited for other reasons                      .....                      &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 07 01 9719

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-12-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0863674	A	09-09-1998	AU 724796 B2	28-09-2000
			AU 5740098 A	10-09-1998
			BR 9800848 A	23-11-1999
			CA 2230562 A1	07-09-1998
			CN 1620145 A	25-05-2005
			JP 11075191 A	16-03-1999
			NO 980949 A	08-09-1998
			US 5991447 A	23-11-1999
-----				
WO 0133864	A	10-05-2001	CN 1336080 A	13-02-2002
			JP 2003513565 T	08-04-2003
			US 6654420 B1	25-11-2003
-----				